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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,416	04/16/2004	Michael A. Pouchak	H0005553-9952(1161.113310	9859
90545	7590	03/18/2010		
HONEYWELL/CST Patent Services 101 Columbia Road P.O. Box 2245 Morristown, NJ 07962-2245			EXAMINER SUERETH, SARAH ELIZABETH	
			ART UNIT 3749	PAPER NUMBER
			NOTIFICATION DATE 03/18/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/826,416

**Applicant(s)**

POUCHAK ET AL.

**Examiner**

Sarah Suereth

**Art Unit**

3749

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1448 or PTO-889)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Receipt of applicant's amendment filed on 5/18/09 is acknowledged. Previously, in the office action mailed 2/18/09, claims 1-7 were indicated as allowable. However, upon further consideration, the indication of allowable subject matter is withdrawn. A new grounds of rejection appears below. Because this new grounds of rejection was not necessitated by applicant's amendment, it is made NONFINAL.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim(s) 1,2,4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pouchak (6,536,678) in view of Christiansen (5452687) .

Pouchak discloses a multistage modulating boiler system performing the claimed method steps: receiving a signal indicating that a first stage of the boiler system should be activated (col. 10, lines 60-64); activating the first stage at a first firing rate (via signal 220); maintaining the first firing rate unless a predefined temperature condition occurs (see "emergency mode" 280); the firing rate is determined from an error signal related to the boiler fluid temperature deviation from a setpoint (col. 6, lines 10-13).

Pouchak discloses that the boiler system is a multistage modulating burner with a variable firing rate (col. 5, lines 26-30), but varying the firing rate so that the initial firing rate is lower than the normal firing rate is not explicitly taught.

Christiansen discloses a boiler control system where the initial firing rate (FR) is set by the user (col. 4, lines 4-33), and the initial firing rate continues for a set time period (P91). After the set time period, the firing rate is at a new firing rate (FRold).

Christiansen teaches increasing the firing rate after the initial rate is established (col. 4, lines 54-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Pouchak apparatus with the firing rates taught by Christiansen, in order to allow the user to customize the firing rates as desired (col. 4, lines 45-49).

Regarding claim 2, the predefined condition includes when the temperature of a circulating fluid in the boiler system drops below a predetermined level (col. 5, lines 22-23).

Regarding claims 4 and 5, the boiler system includes a modulating (col. 6, lines 10-13) boiler (Figure 1) for heating a circulating fluid, the boiler having a primary heat exchanger (14) and a bypass temperature sensor (26) for sensing a bypass temperature of the circulating fluid entering the primary heat exchanger; and the predefined condition includes a likelihood of condensation within the primary heat exchanger (col. 1, lines 44-50).

Regarding claim 6, the boiler system includes a secondary heat exchanger (16) associated with the primary heat exchanger and an inlet temperature sensor for sensing an inlet temperature of the circulating fluid entering the secondary heat exchanger; and the likelihood of condensation is predicted based upon sensing of the inlet temperature (col. 1, lines 44-50).

Regarding claim 7, when the firing rate is set as taught by Christiansen, the firing rates will be independent of each other.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pouchak (6,536,678) in view of Christiansen (5452687), further in view of Fukayama (4841918).

As discussed above, Pouchak discloses operating the boiler with a safety feature triggered by the water temperature, instead of by the rate of temperature change of the water.

Fukayama discloses a boiler including a water temperature sensor (25), a temperature changing rate limit switch (29) to the controller (30), where the controller changes the boiler operation to achieve the desired water temperature (col. 14, lines 33-36). Fukayama teaches that either the water temperature itself, or the maximum rate of change of the temperature could be used to control the boiler system (col. 14, lines 33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Pouchak apparatus by using the rate of the water temperature as a safety feature, in order to use an equivalent measuring means (col. 14, lines 33-34).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Suereth at (571) 272-9061 or supervisory patent examiner Steve McAllister at (571) 272-6785.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sarah Suereth/  
Examiner, Art Unit 3749

/Steven B. McAllister/  
Supervisory Patent Examiner, Art Unit 3749